Conserving Energy In A Data Processing Network

ABSTRACT

A data processing network and method for conserving energy in which an initial negotiation between a network server and a switch to which the server is connected is performed to establish an initial operating frequency of the server-switch link. An effective data rate of the server is determined based on network traffic at the server. Responsive to determining that the effective data rate is materially different than the current operating frequency, a subsequent negotiation is performed to establish a modified operating frequency where the modified operating frequency is closer to the effective data rate than the initial operating frequency. The determination of the effective date rate and the contingent initiation of a subsequent negotiation may be repeated periodically during the operating of the network. In one embodiment, the initial and subsequent negotiation are compliant with the IEEE 802.3 standard.